

SHERPA

Made in Switzerland



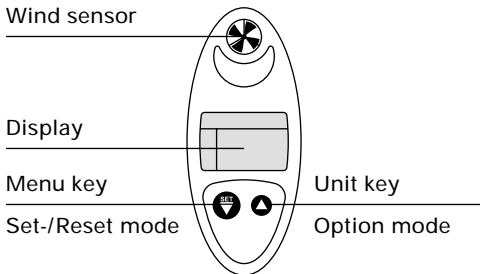
## OPERATING INSTRUCTIONS

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The Brunton Co., 620 East Monroe Ave., Riverton, Wy, 82501, USA, [www.brunton.com](http://www.brunton.com)

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### Commissioning

The instrument is supplied with a basic configuration. These values can be altered using the Set and Option modes to suit your own personal requirements.

Your SHERPA is always switched on. After using the SPEED-mode or the TEMP-mode the user should switch manually either to the ALTI-mode or to the BARO-Mode. The battery life of the SHERPA will last up to one year, if the user follows the above procedure.

The user should be aware that the instrument absorbs a greater amount of battery power if it *remains* in either the SPEED-mode or TEMP-mode. However, the instrument switches automatically to the BARO-mode, after approximately 15 minutes.

### Battery compartment

Your SHERPA is powered by a lithium battery (3 V, CR2032). When battery power is low, the message «BAT» appears in the display.


The instrument is always initialized with the basic configuration when the battery is replaced. The barometer, the time and the altimeter all have to be reset.


A watertight membrane in the battery compartment serves to equalize pressure. If your SHERPA is exposed to too much humidity (e. g. if dropped into water or exposed to heavy rain), this membrane must be carefully dried without delay. Leave the battery compartment open until the whole instrument is dry again.

## Key functions

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### *Brief pressure*

You can cycle through the four main menus Barometer, Altitude, Windspeed and Temperature by briefly pressing the Menu key .

By briefly pressing the Unit key , you can select the display units in the relevant main menu:

Barometer: barometric pressure display in hPa or in inHg


Altitude: displayed in meters or feet


Windspeed: displayed in miles per hour,

Beaufort, knots, m/s or km/h



Temperature: displayed in °C or °F

### *Extended pressure*

Holding down the Menu key  (3 seconds) will change from the relevant main menu to Set/Reset mode.

Holding down the Unit key  (8 seconds) will change from the relevant main menu to Option mode.

### *Pressing both keys briefly*

Pressing both keys   simultaneously will save the settings and the display will return to the main menu.

If no key is pressed in Set or Option mode for 8 seconds, the settings are automatically saved and the display returns to the main menu.

It is possible to forecast the weather based on a change in air pressure at the same location. An improvement in the weather can be expected when the air pressure is rising. Conversely, a deterioration in the weather can be expected if the air pressure is falling.

A barometer measures the current local air pressure. As this decreases as altitude increases, the air pressure at a certain altitude above sea level must be set in relation to the air pressure at sea level. To do this, it is necessary to enter the local altitude above sea-level (= the altitude of your current location).

Note: You must re-enter the altitude of your location whenever you change locations as it would otherwise be impossible to make a reliable weather forecast.

The bar chart in the barometer main menu shows the development of air pressure over the last 16 hours thereby permitting a weather forecast to be made. The chart compares the air-pressure values measured 16, 8, 4 and 2 hours previously with the current value. One bar height corresponds to 2 hPa or the corresponding value in inHg.

If the chart ascends from left to right, the air pressure has risen and better weather can be expected. If the chart descends from left to right, the weather is deteriorating. If the chart shows no movement, there will be no change in the weather.



Better weather

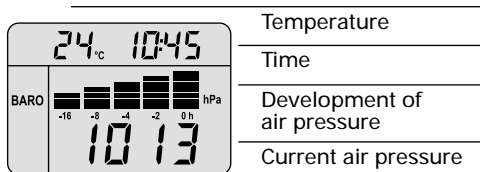


Worse weather




No change in the weather

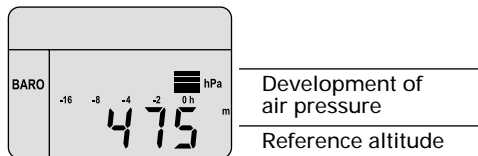





### Main menu

The Barometer main menu shows the current air pressure, the development of air pressure in the preceding 16 hours, the temperature and the time.

Briefly pressing the  key will change the value of the air pressure (hPa or inHg).






### Resetting the display for the development of air pressure



Holding down the  key (3 seconds) will change from the main menu to Set mode.

The bar chart with the development of air pressure display is zeroed. The entire trend display is redisplayed. After 2, 4, 8 and 16 hours a new series is displayed.

The currently entered altitude of your location will flash on the display.

### Setting the barometer

Press the  key briefly. A new reference altitude is displayed. The  key can be used to reduce the display and the  key increases it. Either press the key briefly to alter the altitude in one-meter increments or hold it down continuously for fast resetting.

Save your entry by pressing both keys   simultaneously or wait 8 seconds; the display will change from Set mode to the main menu.

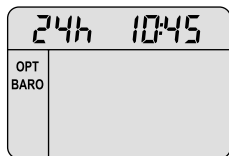
### Altering air-pressure measurement in QFE or QNH

#### *Absolute air pressure (QFE)*

If the altitude of your location is zeroed, the effectively measured air pressure is displayed in the Barometer main menu (absolute measurement).


#### *Calculating the air pressure set back to sea level (QNH)*



If the altitude of your location is set using the effective altitude above sea level, the air pressure – reduced to sea level – will be calculated and displayed in the Barometer main menu.





Time

## Setting the time

Holding down the  key for a long time (3 seconds) will change from the main menu to Option mode. The currently entered time will flash.

The time can be put back with the  key and put forward with the  key. Either press the key briefly to alter the time displayed in one-minute increments or hold it down continuously for fast resetting.

Save your entry by pressing both keys   simultaneously or wait 8 seconds; the display will change from Option mode to the main menu.

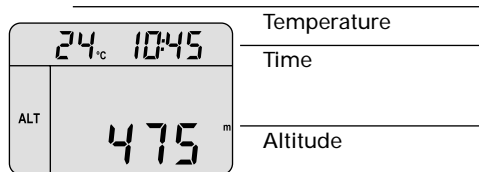
An altimeter measures the altitude on the basis of air pressure. The air pressure at sea level is assumed to be zero pressure. This zero pressure is called QNH. Dependent on weather conditions, the air pressure at sea level fluctuates between 950 and 1050 millibars. Even on a stable day, there can be fluctuations in the air pressure of  $\pm 1$  mbar due to the temperature and this corresponds to a deviation in altitude of  $\pm 8$  meters. When the weather is changing fast, for example, cold fronts, the air pressure can change by up to 5 mbars in one day and the deviation in altitude can amount to up to 40 meters. Owing to these fluctuations in air pressure, an altimeter must be recalibrated each time it is used. This means that the altimeter must be reset at a known altitude (e. g. at home, at a railway station, at a ski hut, etc.).

Note: If instrument is set up to read feet, and user exceeds 19,999 ft., the <1> digit will drop off. (i. e., At an elevation of 21,500 ft., instrument will read 1,500 ft.).




## Altimeter

### Main menu



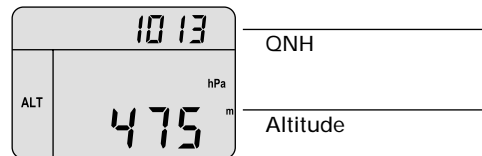
### Main menu

The Altitude main menu displays the current altitude above sea level, the temperature and the time. The resolution of the altitude display is 1 meter (3 feet). Normally, the altitude is remeasured every 10 seconds. Each press of a key results in a faster measuring mode (1 second). If the change in altitude exceeds 1 meter per second, the update rate automatically changes to the faster measuring mode (1 second). If the change in altitude is lower, the update rate changes back to every 10 seconds.


Briefly pressing the  key will change the unit of altitude (meters or feet).



## Altimeter



### Set mode

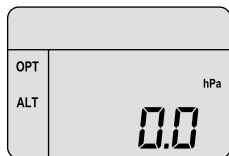


### Setting the altitude

Holding down the  key (3 seconds) will change from the main menu to Set mode.

The altitude display and the QNH flash (current air pressure in hPa (1 hPa = 1 mbar), calculated back to sea-level). The  key can be used to reduce the values and the  key to increase it. Either press the key briefly to alter the value in 1-meter increments or hold it down continuously for fast resetting.

Save your entry by pressing both keys   simultaneously or wait 8 seconds; the display will change from Set mode to the main menu.






Value of the pressure sensor in mbar



### Calibrating the pressure sensor

If the QNH value at a known altitude deviates drastically from the QNH value of a weather station in the vicinity, the pressure sensor can be adjusted accordingly.

Warning: the altitude figures will be false if the pressure-sensor correction value is set incorrectly. Do not alter the setting without a good reason.

Holding down the  key (8 seconds) will change from the main menu to Option mode. The pressure-sensor correction value will flash on the display.

The  key can be used to reduce the value and the  key increases it. Either press the key briefly to alter the display in 0.1-mbar increments or hold it down continuously for fast resetting.

Save your entry by pressing both keys   simultaneously or wait 8 seconds; the display will change from Option mode to the main menu.

Wind measurement

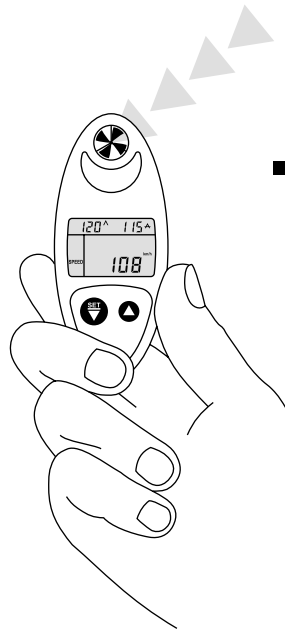
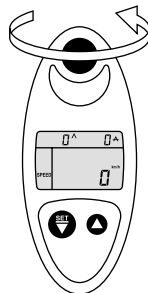
Turn the wind-vane ball until the aperture in the casing is in exact alignment with it.

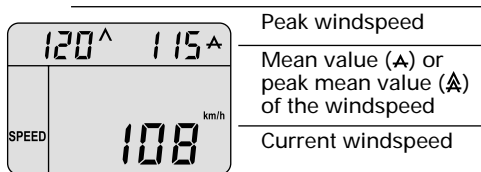
Incomplete opening will falsify your wind measurement data!

Hold your SHERPA steady in one hand and, with your arm outstretched, point it precisely in the direction from which you wish to measure the wind.

Protecting the wind vane


Turn the wind-vane ball until the aperture is fully closed. In this position, the wind vane is fully protected.





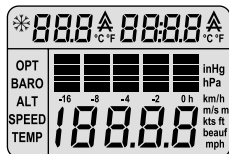
### Main menu

The Windspeed main menu displays the current windspeed, the peak windspeed and the mean value of the windspeeds or the peak mean-value measured over a certain period of measurement (5 to 60 seconds).

Press the  key briefly to alter the unit of speed (mph, Beaufort, knots, m/s, km/h).


The symbols have the following meanings:

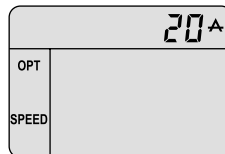
- <sup>^</sup> Peak speed (maximum windspeed measured)
- ▲ Mean value (average windspeed measured over a certain period of time (5 to 60 seconds – q. v. Setting the calculation time))
- ▲<sup>▲</sup> Peak mean value (highest mean value measured)





Zeroing the peak  
windspeed and  
the mean values

Resetting the peak speed and the  
mean value display




Holding down (3 seconds) the  key will reset the peak-speed and mean-value displays to zero. All LCD segments are displayed. Release the key to return to the main menu.

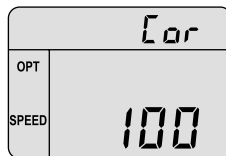


Calculation time for  
the mean values

In the Option mode of the windspeed indicator, pressing both keys   simultaneously will move on to the next option.



Setting the calculation time for  
the mean values

Holding down the  key (8 seconds) will change from the main menu to Option mode. The currently set calculation time for the mean values will flash on the display. The  key can be used to reduce the calculation time while the  key increases it. Press the key briefly to alter the display in 5-second increments.







Calibration factor for  
the wind-vane sensor

The calculation time can be set between 5 and 60 seconds.

Save your entry by waiting 8 seconds and return to the main menu; alternatively, you can change to the calibration factor of the wind-vane sensor by pressing both keys   simultaneously. The calibration factor for the wind-vane sensor flashes on the display.

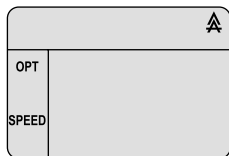
### Calibrating the wind-vane sensor

The  key can be used to reduce the factor and the  key increases it. Press the key briefly to alter the factor in 1% increments; continuous pressure will alter the factor at a higher speed.

Save your entry by waiting 8 seconds and return to the main menu or change to the selection of the display of the mean value or the peak mean value by pressing both keys   simultaneously. The indicator for the mean value or the peak mean value will flash in the display.

## Windspeed display

### Option mode



Indicator for the mean-value (▲) or the peak mean-value (▲).

### Selecting the mean-value display or the peak mean-value display

The display shows the currently selected display with the indicator for the mean value ▲ or with the indicator for the peak mean-value ▲.

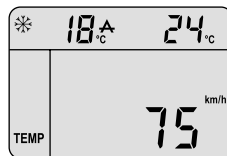
Press the **▼** key briefly to access the mean-value display ▲; press the **▲** key briefly to

access the peak mean value display ▲.

Save your entry by pressing both keys **▼▲** simultaneously or wait 8 seconds; the display will change from Option mode to the main menu.

## Temperature display

### Main menu



Windchill with indicator ▲/▲

Actual temperature

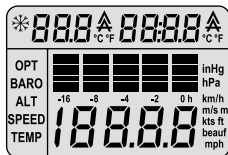
Current windspeed

### Main menu

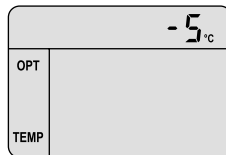
The Temperature main menu displays the current windspeed, the actual temperature and the windchill figure (the sense of cold caused by the windspeed).

The indicator shows whether windchill is being calculated using the mean value (▲) or the peak mean value (▲) of the windspeed measured (change mean value/peak mean value in the Option mode of the windspeed indicator).

Press the **▲** key briefly if you wish to alter the Temperature display (°Celsius or °Fahrenheit).




Zeroing the  
windchill display




Correction value  
for the temperature



### Resetting the Windchill display

Holding down (3 seconds) the  key will reset the windchill display. All LCD segments are displayed. Release the key to return the display to the main menu.

### Calibrating the temperature sensor



A false temperature display reading can be corrected.

Holding down the  key (8 seconds) will change from the main menu to Option mode. The currently set correction value for the temperature will flash on the display.

The  key can be used to reduce the value and the  key increases it. Press the key briefly to alter the display in 1° C increments. If the display is too high, the correction value must be entered as a minus value; if it is too low, the correction factor must be entered as a plus value.



The correction value can be set between  $-5^{\circ}\text{C}$  ( $-10^{\circ}\text{F}$ ) and  $+5^{\circ}\text{C}$  ( $+9^{\circ}\text{F}$ ).

Save your entry by pressing both keys   simultaneously or wait 8 seconds; the display will change from Option mode to the main menu.

Altitude display: 0–9,000m (0–30,000ft)

Altitude display resolution: 1 meter (3ft)

Update rate of the altitude display: dependent on the user's rate of ascent/descent (1 or 10 seconds)

Air pressure display: hPa or inHg

Air pressure adjustment range: 900–1100 hPa  
(26.60–32.49 inHg)

Air pressure display resolution: 1 hPa or 0.01 inHg

Update rate of the air pressure display: 4x per hour

Windspeed measurement: from 0.1 m/s to 40 m/s (145 km/h)

Accuracy of wind measurement:  $\pm 4\%$  (can be corrected)

Windspeed display resolution: 0.1 m/s

Update rate of the windspeed display: every second

Calculation times for average windspeed: 5 to 60 seconds  
in 5-second increments

Temperature measurement range:  $-20^{\circ}\text{C}$  to  $55^{\circ}\text{C}$

Accuracy of temperature measurement:  $\pm 2^{\circ}\text{C}$   
(can be corrected)

Temperature display resolution:  $1^{\circ}\text{C}$

Weight incl. battery: approx. 45 g

Size: 10.3 x 4.5 x 1.8 cm (3.93 x 1.57 x 0.70 in)

Casing: ABS

Water-repellent

Battery type: 3V lithium battery, CR2032

Battery life: approximately 1 year, automatic warning  
of low battery status

Warranty: 2 years

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# Review of operating functions

3 Seconds

Set mode



Resetting the air pressure trend

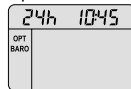
Setting the barometer

Barometer/Time



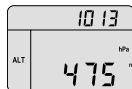
8 Seconds

Option mode



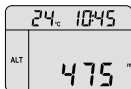
Setting the time

Set mode

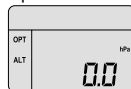


Setting the altitude

Altimeter



Option mode



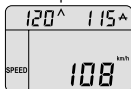
Calibrating the pressure sensor

Set mode

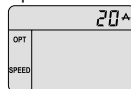


Resetting the wind measurement

Windspeed Indicator

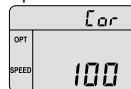


Option mode



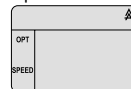
Mean-value calculation time

Option mode



Calibrating the wind-vane sensor

Option mode



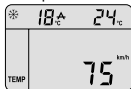
Selecting the mean-value or the peak mean-value

Set mode

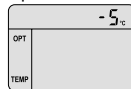


Resetting the windchill display

Temperature



Option mode



Calibrating the temperature

Key functions: ▼ Select the main menu ▲ Select the display units



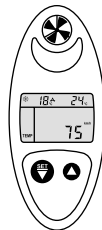
▼ Barometer  
▲ hPa · inHg



▼ Altitude  
▲ m · ft



▼ Windspeed  
▲ mph · beauf · kts ·  
m/s · km/h



▼ Temperature  
▲ °C · °F

Wind-/Windchill measurement

